

Application No. 10/042,357

**VERSION WITH MARKINGS TO SHOW CHANGES MADE:**

**IN THE SPECIFICATION:**

Page 1, line 6:

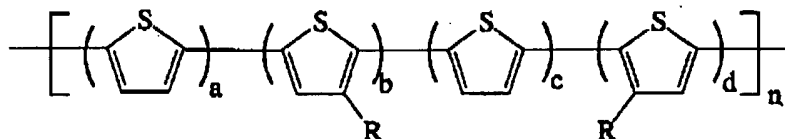
Illustrated in copending applications U.S. Serial No. [(not yet assigned - D/A1333)] 10/042,342, U.S. Serial No. [(not yet assigned - D/A1334)] 10/042,356, U.S. Serial No. [(not yet assigned - D/A1332)] 10/042,358, U.S. Serial No. [(not yet assigned - D/A1657)] 10/042,359, U.S. Serial No. [(not yet assigned - D/A1658)] 10/042,360, the disclosures of which are totally incorporated herein by reference, and filed concurrently herewith, all titled "Polythiophenes and Devices Thereof" and all filed January 11, 2002, are polythiophenes and devices thereof. The appropriate components, processes thereof and uses thereof illustrated in these copending applications may be selected for the present invention in embodiments thereof.

**IN THE CLAIMS:**

Claim 1 is cancelled.

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2. (Amended) Polythiophenes [in accordance with claim 1 and which polythiophenes are represented by] of the formula

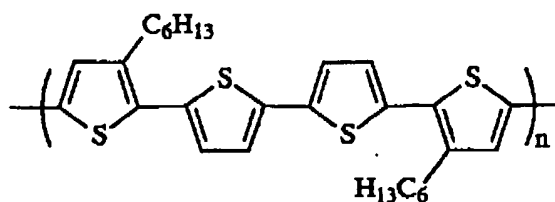


wherein R is a side chain; a is an integer of from about 0 to about 5; b, c, and d are integers of from about 1 to about 5; and n represents the degree of polymerization of from about 5 to about 5,000; the number average molecular weight ( $M_n$ ) of the polythiophenes is from about 2,000 to about 100,000, and the weight average molecular weight ( $M_w$ ) is from about 4,000 to about 500,000, each measured by gel permeation chromatography using polystyrene standards, and wherein said polythiophenes possess a conductivity of from about  $10^{-6}$  to about  $10^{-9}$  S/cm.

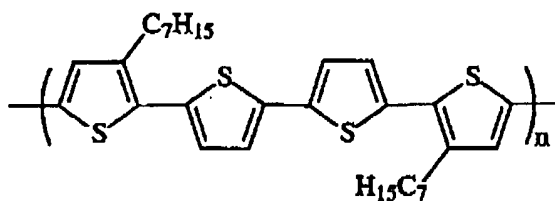
Claim 1, 11, 12, 2nd  
 7/19/04 19, 20, 33  
 12, xyz  
 Claims 28-32 are allowed.  
 29 = no III b

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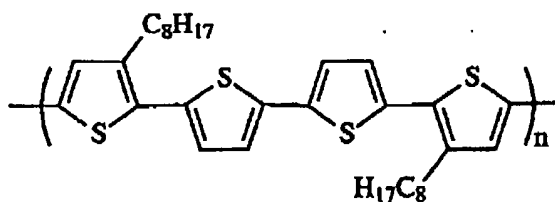
3. (Amended) Polythiophenes in accordance with claim [1]  
2 and of the formulas



(II-a)

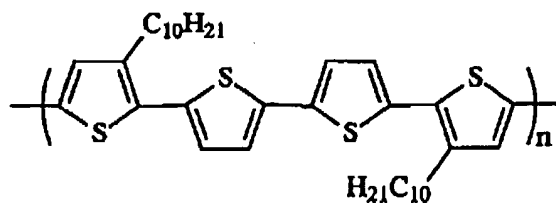


(II-b)

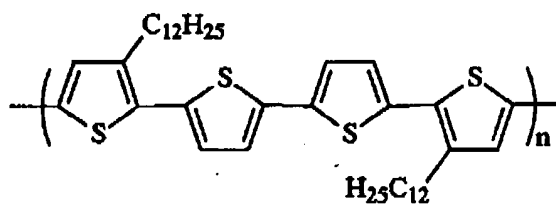


(II-c)

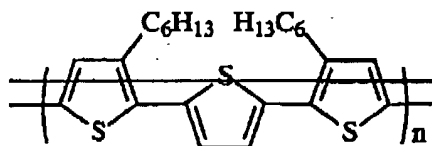
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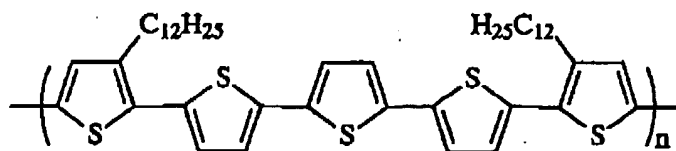
(II-d)



(II-e)

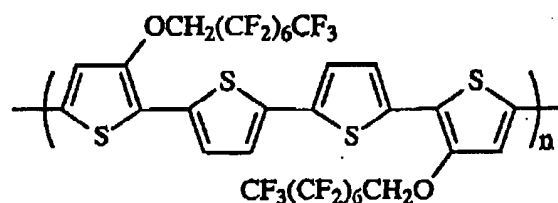


(II-f)

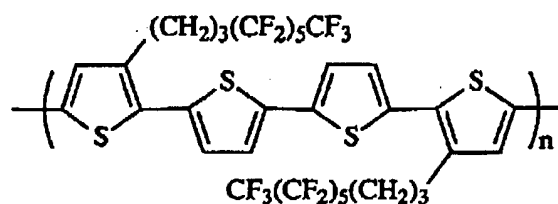


(II-g)

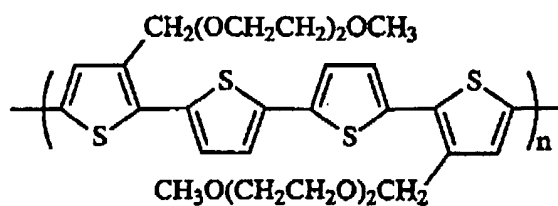
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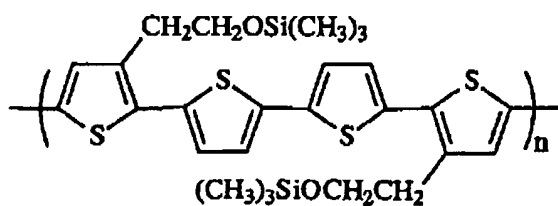
(II-h)



(II-i)

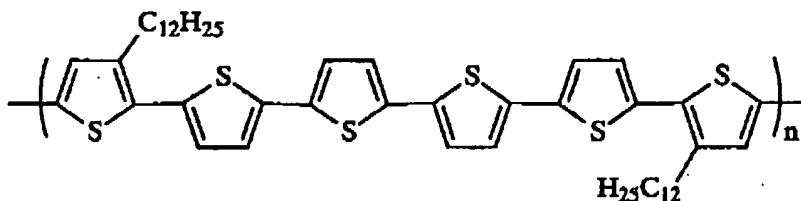


(II-j)

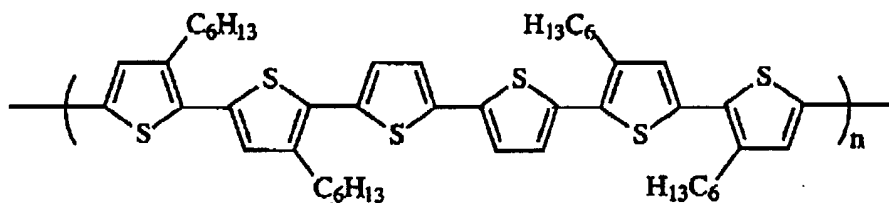


(II-k)

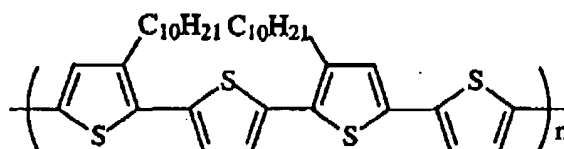
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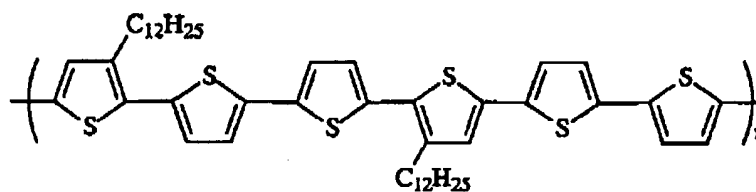
(II-l)



(II-m)



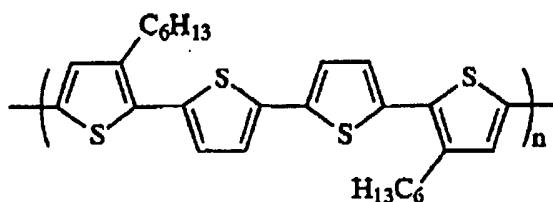
(II-n)



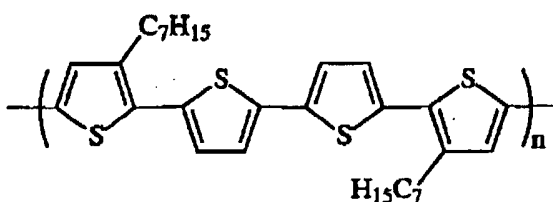
(II-o)

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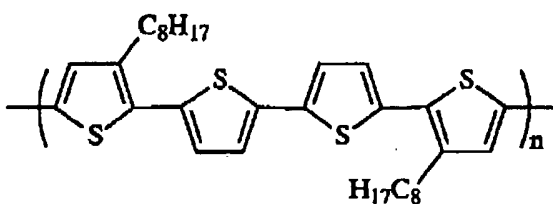
4. (Amended) Polythiophenes in accordance with claim [1]  
2 and of the formulas



(II-a)

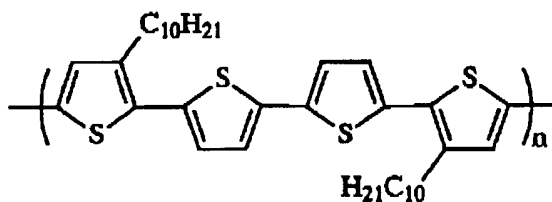


(II-b)

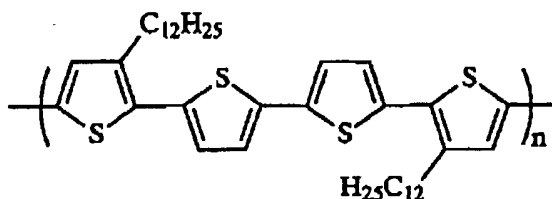


(II-c)

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(II-d)



(II-e)

5. (Amended) Polythiophenes in accordance with **claim [1]**  
2 wherein m is 1.

6. (Amended) Polythiophenes in accordance with **claim [1]**  
2 wherein R is alkoxyalkyl, siloxy substituted alkyl, a perhaloalkyl, or a polyether.

7. (Amended) Polythiophenes in accordance with **claim [1]**  
2 wherein A is an arylene.

11. (Amended) Polythiophenes in accordance with **claim [1]**  
2 wherein m is 1 or 2.



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12. (Amended) Polythiophenes in accordance with claim [1] 2 wherein x, y, and z represent the number of segments of from 1 to about 5 for x and y, and z is zero (0) or 1.

13. (Amended) Polythiophenes in accordance with claim [1] 2 wherein n is from about 5 to about 5,000; the number average molecular weight ( $M_n$ ) of the polythiophene is from about 2,000 to about 100,000; the weight average molecular weight ( $M_w$ ) is from about 4,000 to over 500,000, both  $M_w$  and  $M_n$  being measured by gel permeation chromatography using polystyrene standards.

14. (Amended) Polythiophenes in accordance with claim [1] 2 wherein R is alkyl containing from 1 to about 20 carbon atoms; wherein n is from about 10 to about 1,000; the  $M_n$  is from about 4,000 to about 50,000; and the  $M_w$  is from about 5,000 to about 100,000.

15. (Amended) Polythiophenes in accordance with claim [1] 2 wherein the alkyl side chain R contains from about 6 to about 12 carbon atoms.

16. (Amended) Polythiophenes in accordance with claim [1] 2 wherein the alkyl side chain R is butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, undecyl, or dodecyl.

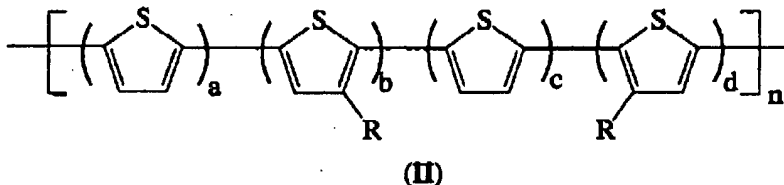
17. (Amended) Polythiophenes in accordance with claim [1] 2 wherein the side chain R is a perfluoroalkyl of about 2 to about 15 carbon atoms.

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18. (Amended) Polythiophenes in accordance with claim [1] wherein the side chain R is siloxyalkyl or trimethylsiloxyalkyl or triethylsiloxyalkyl, and wherein alkyl optionally contains from about 4 to about 10 carbons, and which alkyl is butyl, pentyl, hexyl, heptyl, or octyl.

19. (Amended) Polythiophenes in accordance with claim [1] wherein the divalent linkage A is an arylene with from about 6 to about 40 carbon atoms.

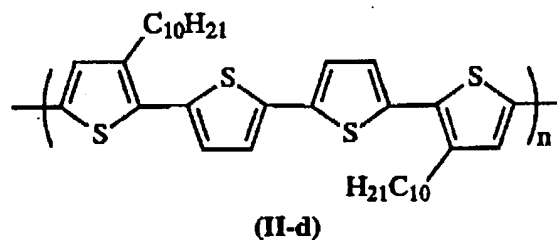
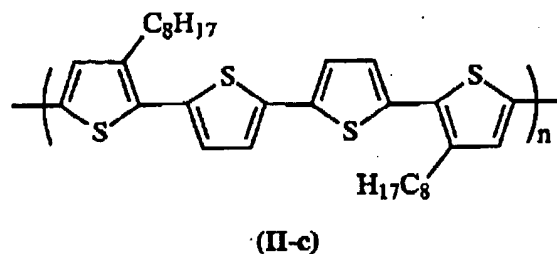
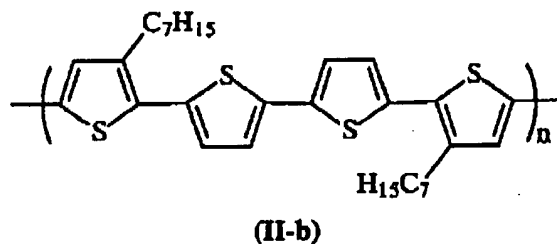
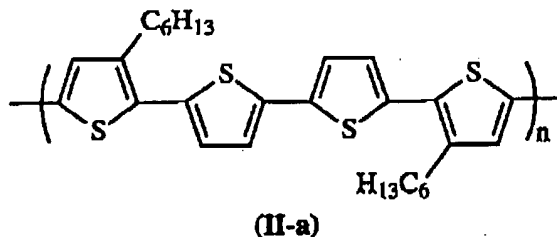
21. (Amended) Polythiophenes in accordance with claim [1] wherein n is represented by



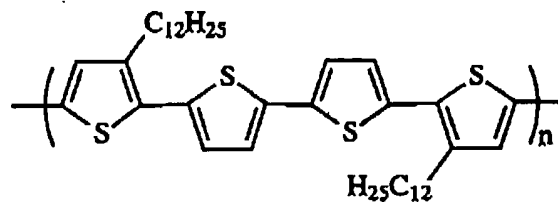
wherein R is a side chain; a, b, c, and d represent the number of thiophene moieties; and n is the degree of polymerization of from about 100 to about 1,000.

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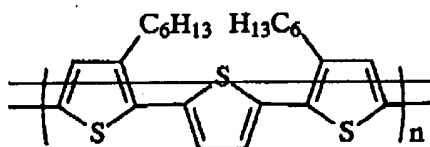
27. (Amended) Polythiophenes in accordance with claim [1] 2 wherein said polythiophene is selected from the group consisting of polythiophenes (II-a) through [(II-o)] (II-e) and (II-g), and wherein n is from about 100 to about 4,000



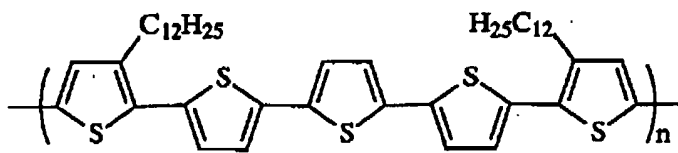
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(II-e)



(II-f)



(II-g)